

# Claims

- [c1] A bone screw, comprising:
  - a head;
  - a shank having a proximal portion with a constant minor diameter, and a distal portion with a minor diameter that decreases in a proximal-to-distal direction; and
  - opposed first and second helical threads, the threads extending around at least a portion of a length of the shank and defining a thread depth that remains constant along the length of the shank.
- [c2] The bone screw of claim 1, wherein a major diameter of the shank at a distal tip of the shank is equal to or less than the minor diameter of the proximal portion of the shank.
- [c3] The bone screw of claim 1, wherein the distal portion of the shank has a length that is about 10 mm.
- [c4] The bone screw of claim 1, wherein the distal portion of the shank has a length that comprises at least about 10% of a length of the bone screw.
- [c5] The bone screw of claim 1, wherein the bone screw has a length in the range of about 20 mm to 100 mm, and the

distal portion of the shank has a length of about 10 mm.

- [c6] The bone screw of claim 1, wherein a root of each of the opposed first and second helical threads has a width extending between proximal and distal facing flanks that remains substantially constant along the length of the shank.
- [c7] The bone screw of claim 1, wherein a crest of each of the opposed first and second helical threads has a width extending between proximal and distal facing flanks that remains substantially constant along the length of the shank.
- [c8] The bone screw of claim 7, wherein the width of the crest is about 0.2 mm.
- [c9] The bone screw of claim 1, wherein the opposed first and second helical threads define a pitch of about 6 mm.
- [c10] The bone screw of claim 1, wherein the opposed first and second helical threads each have proximal and distal flanks that converge toward one another from a root to a crest thereof.
- [c11] The bone screw of claim 10, wherein the proximal and distal flanks converge toward one another at substantially the same rate.

- [c12] The bone screw of claim 1, wherein the opposed first and second helical threads each have proximal and distal flanks that converge toward one another at an outermost crest thereof to form a flat edge.
- [c13] The bone screw of claim 1, wherein the minor diameter at the proximal portion of the shank is in the range of about 3 mm to 5 mm, and wherein the minor diameter at the distal portion of the shank is less than the minor diameter at the proximal portion of the shank.
- [c14] The bone screw of claim 1, further comprising a distal tip formed on a distal-most end of the shank.
- [c15] The bone screw of claim 14, wherein the distal tip is a self-tapping tip.
- [c16] A bone screw, comprising:  
a head having a driver-receiving element formed thereon;  
a shank formed from first and second axially symmetrical threads offset approximately 180° from one another and extending around at least a portion of the shank between proximal and distal ends thereof, the threads having a depth that remains constant along a length of the shank, and a proximal portion of the shank having a minor diameter that is equal to or greater than a major di-

ameter of the shank at a distal-most end thereof.

- [c17] The bone screw of claim 16, wherein a proximal portion of the shank has a substantially constant minor diameter, and a distal portion of the shank has a minor diameter that decreases in a proximal-to-distal direction.
- [c18] The bone screw of claim 16, wherein the distal portion of the shank has a length that is at least about 10% of a length of the bone screw.
- [c19] The bone screw of claim 16, wherein the distal portion of the shank has a length that is about 10 mm.
- [c20] The bone screw of claim 16, wherein the bone screw has a length in the range of about 20 mm to 100 mm, and the distal portion of the shank has a length of about 10 mm.
- [c21] The bone screw of claim 16, wherein a root of the threads has a width extending between proximal and distal facing flanks that remains substantially constant along the length of the shank.
- [c22] The bone screw of claim 16, wherein a crest of each the threads has a width extending between proximal and distal facing flanks that remains substantially constant along the length of the shank.

- [c23] The bone screw of claim 22, wherein the width of the crest is about 0.2 mm.
- [c24] The bone screw of claim 16, wherein the threads define a pitch of about 6 mm.
- [c25] The bone screw of claim 16, wherein the threads each have proximal and distal flanks that converge toward one another from a root to a crest thereof.
- [c26] The bone screw of claim 25, wherein the proximal and distal flanks converge toward one another at substantially the same rate.
- [c27] The bone screw of claim 16, wherein the threads each have proximal and distal flanks that converge toward one another at an outer-most crest thereof to form a flat edge.
- [c28] The bone screw of claim 16, further comprising a distal tip formed on a distal-most end of the shank.
- [c29] The bone screw of claim 28, wherein the distal tip is a self-tapping tip.
- [c30] A bone screw, comprising:
  - a head;
  - a shank having a proximal portion with a constant minor

diameter, and a distal portion with a minor diameter that decreases in a proximal-to-distal direction; and opposed first and second helical threads formed on at least a portion of the shank and defining a major diameter that decreases at the same rate as the minor diameter of the shank.